

# Status of ITDI Culture Collection WFCC 503

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Industrial Technology Development Institute  
(ITDI) Culture Collections under the  
Department of Science and Technology  
(DOST)  
WFCC Reg. No. ITDI 503

Formerly Biological Research Center (BRC) under the  
National Institute of Science and Technology

The late Dr. LYDIA M. JOSON has close  
collaboration with Dr. KOMAGATA of JCM

# Functions

- Serves as repository of important microbial strains such as bacteria, yeasts and molds.
- Preserves and maintains viability of microorganisms important to industry, research and the academe.
- Serves as source of teaching materials and reference strains for the academe.
- Isolates microorganisms for the industry from the natural environment for bioremediation, treatment of wastewater from leather tanneries, quick service restaurants, ww with high phenolic substances, contaminants from artificial trees and their treatment
- Isolates microorganisms and screen them for bioactive substances, enzymatic and hydrolytic activities

# Limitations

- After isolation and screening for industrial applications, identification is not being done because of budget constraints.
- The industry has the option to maintain the cultures in their company

# Technical Services with Standard Fees and Conforme Letter

- Antimicrobial assay of plant extracts submitted by researchers within the institute and by students (high school, college and post graduate) for INTEL contests, thesis and dissertation
- Fermentation studies using industrial strains (alcohol, wine, nata, acetic acid, succinic acid, biogas)
- Biochemical characterization of microorganisms and documentation of cultural characteristics
- Verification of environmental technologies utilizing microorganisms (ETV)

Included in the Directory of Culture Collections in the Philippines 3<sup>rd</sup> Edition published by Philippine Network of Microbial Culture Collections, Inc. (PNMCC)

- Other Culture Collections:
- Philippine National Collection of Microorganisms, BIOTECH, UPLB WFCC BIOTECH 620
- UP NSRI WFCC UPCC 310
- Microbial Culture Collection Museum of Natural History WFCC MCC-UPLB 39

# Other culture collections included in the PNMCC

- University of Santo Tomas Collection of Microbial Strains (UST CMS)
- The Ecosystem Research and Development Bureau Endomycorrhizal Germplasm Collection (ERDB)
- The United Laboratories (UNILAB) Clinical Culture Collection

Catalogue <http://www.pnmcc.org>

## 5 PARTS

1. Bacteria
2. Yeasts
3. Multicellular Fungi
4. Endomychorrhizal Fungi
5. Algae

Scientific names (alphabetically arranged) , Author(s),  
Culture Collection Accession No. and the Source



# ITDI Culture Collection

## WFCC Reg. ITDI 503

- Number of Holdings – Less than 500
- In-house Database Management system is not in place
- Since the collection has been in existence for several decades, authentication of microbial strains is being done
- Molecular taxonomy primarily for important industrial strains was just started

# Distribution of Cultures

- A letter of request certifying that the client has an autoclave to decontaminate cultures and stating for what purpose the culture will be used, the title of the research should be given and recommended by the adviser.
- An ISO form will be filled up for payment.
- Another form is filled up stating the full responsibility in decontamination and proper disposal of the culture
- For business (small and medium scale industries) Material Transfer Agreement (MTA) is filled up, but there is no clause on benefit sharing.

# Training Services coordinated by the Technological Services Division

- Microbial propagation and Nata de Coco Production
- Mushroom culture and production
- Biogas Technology (piggeries and poultries)
- Accelerated Composting Technology of Municipal Solid Wastes using DOST-ITDI Bioreactor and inoculant transferred to several local government units

ISO certified procedure for training services

# On Going Projects

- Microbial and Biochemical Profiling of Cacao Fermentation in collaboration with UPLB BIOTECH
- Laccase production from locally isolated mushrooms
- Bench scale production of food colors from *Monascus purpureus* in solid substrate fermentation using rice

# Bioprospecting Law is in place

- Permit is requested from the authorities or tribal group where the biological material will be collected
- Biosafety committee – approves the entry/utilization of microorganisms

# Future Work

- Determine the legality of strain acquisition
- Improve preservation methods
- Revise the distribution of cultures (MAA/MTA)
- Establish the database management system

Utilize both biochemical characterization and molecular taxonomy for database management

Strong need for training and capacity building

THANK YOU VERY MUCH

**SALAMAT PO**